



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/687,445	10/13/2000	Charles Lee Asplin	ASPL-007	1343

7590

03/07/2006

Curtis V. Harr
Registered Patent Attorney
P. O. Box 2842
Fargo, ND 58108-2842

EXAMINER

ADDIE, RAYMOND W

ART UNIT	PAPER NUMBER
----------	--------------

3671

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/687,445	Applicant(s) ASPLIN, CHARLES LEE	
	Examiner Raymond W. Addie	Art Unit 3671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/13/2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12, 17- are rejected under 35 U.S.C. 103(a) as being unpatentable over Flock # 1,943,914 in view of Asplin # 5,860,763.

Flock discloses a method of lifting and leveling a slab of concrete (6) using compressed air to compact the sunken soil (5) below the slab (6), and to lift the slab, to stabilize and hold said slab in a desired position, the method comprising the steps of:

Drilling a hole in said slab (6).

Attaching said gun nozzle (13) to said slab (6), and at least partially within said drilled Hole, via guide sleeve (18).

Supplying an aggregate storage tank (not shown) filled with an aggregate, such as earth clay etc., said storage tank being connected to an injector gun (19) via an elongate fluid tight hose (9). See Col. 2.

Supplying a compressed air source in fluid tight connection with said aggregate storage tank such that an aggregate is discharged under pressure to compact the subsoil and raise the sunken pavement (6). See Col. 3, Ins. 88-110.

Mixing the aggregate and compressed air in order to;

Deliver said compressed sand/air mixture to said injector gun (19) and through a nozzle (13); and into a cavity created below the sunken slab (6). See Col. 3, Ins. 19-44.

Lifting, momentarily said slab (6) to height at least equal to a desired final level with the inherent internal pressure of said compressed air such that a settle cavity is formed, and back pressure is applied to the bottom surface of said slab (6) to raise said slab.

Leveling said ground with said aggregate by said compressed air, such that said aggregate may move about said settle cavity and fill said cavity, thus supporting the bottom surface of said slab (6).

Repeating said lifting and leveling steps until said slab is at said desired level and resting upon said aggregate, thus injected.

What Flock does not disclose is the specific use of well dried mason's sand. However, Asplin teaches well dried mason's sand is advantageously used to fill a cavity below sunken pavement slabs (52), by compressed air injection, utilizing an injector gun (42). See Col. 4.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the method of raising sunken pavement, of Flock, with the step of utilizing mason's sand to fill a cavity formed below sunken pavement, as taught by Asplin, in order to form a compressed foundation layer of aggregate, to support said slab in a raised, level position.

3. Claims 13-16, 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flock '914 in view of Asplin '763 as applied to claims 12, 17 above, and further in view of Lightle # 5,795,108.

Flock in view of Asplin disclose essentially all that is claimed, to include the use of a hopper (32) and various valve assemblies (34, 30, 32, 56) to control movement and placement of the pressurized aggregate, such as dirt, or sand.

Flock further discloses the steps of drilling a plurality of holes (11) and filling each hole with pressurized aggregate until the pavement is leveled and then patching the hole (11) with cement or the like. See cols. 3-4.

Flock also discloses the injector gun can be any of several different embodiments having different shapes, sizes and nozzle openings can be disposed in various orientations, relative to the supply hose (9). What Flock in view of Asplin do not disclose are the various structural features of the pressurized delivery system.

However, Lightle teaches the steps of:

Providing a high-volume, compressed air source and plurality of valve assemblies (30, 32, 56) for controlling the flow of sand through the distribution systems. Said valve assemblies increasing the safety of pressurized system, and providing sufficient pressure for placing aggregate in a desired location, through an aggregate distribution system. See Lightle Cols. 2-3.

Response to Arguments

3. Applicant's arguments filed 12/23/05 have been fully considered but they are not persuasive.

Applicant argues "As previously argued, it was believed that this clearly and patentably defined over the previous references and in particular, the Flock 1,943,914 patent as this patent does not use air to lift with but rather uses air behind a plastic material such that the plastic material is injected between the slab and the ground to lift the slab".

However the Examiner does not concur.

Flock explicitly discloses in page 1, Ins. 19-48 "the invention is carried out by pumping...forcing...plastic material under the sagging structure to lift the latter into its proper...position...this is preferably accomplished by...forcing the filling material downward...to react under pressure against the earth's subsoil and the lower surface of the pavement in a manner to raise the latter...the sunken portion of the pavement being movable under pressure".

Therefore the argument is not persuasive and the rejection is maintained.

In response to Applicant's argument that Flock uses a material that is "substantially incompressible" as evidence Flock does not disclose using air pressure to lift the sunken slab.

However, specifically because Flock uses a "substantially incompressible" material, the air pressure present in the device to "pump or otherwise force" the filling material into the hole; the inherent air pressure in the tube (9) is released upon exiting the nozzle (15), thus separating from the "incompressible material" that compacts the subsoil, forces the lower surface of the pavement to raise to the desired height, under pressure. As explicitly disclosed in Page 1, Ins. 25-40.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

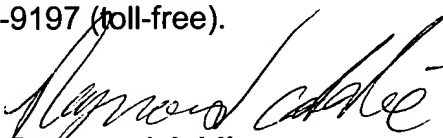
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 3671

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Addie whose telephone number is (571) 272-6986. The examiner can normally be reached on Monday-Saturday from 7:00 am to 2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (571) 272-6998.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Raymond Addie
Primary Examiner
Group 3600

3/3/2006